

**RETAIL AND WHOLESALE DISTRIBUTION  
MARKET ASSESSMENT**

**INPUT**

ZEDL  
1987





RETAIL AND WHOLESALE DISTRIBUTION  
MARKET ASSESSMENT

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Z-EDZ



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## I. INTRODUCTION

### OBJECTIVES:

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1. Ensure EDS' planned service(s) will meet user needs in the retail and wholesale distribution sector. Provide "reality testing" on market and product perceptions.
2. Help customers understand what products EDS has to offer.
3. Provide a frame of reference for EDS' sales force.

### SCOPE:

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This report focuses on SICs:

- 531 (department stores)
- 541 (grocery stores)
- The larger stores in SIC 561 (men's/women's clothing)
- The larger chains/franchisors in SIC 5812 (fast food)

EDS is targeting organizations with annual revenues of at least \$150 million.

### METHODOLOGY:

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INPUT used the following sources to compile this report:

- Editors at wholesale and retail industry-specific periodicals
- Directors or associate directors of retail and wholesale trade associations
- INPUT's reference library
- INPUT's industry contacts





Specifically, INPUT contacted persons at the following industry periodicals and associations:

#### Periodicals

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- "Restaurant Business" (New York, NY)

#### Industry Associations

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- National Mass Retailing Institute (New York, NY)
- National American Wholesale Grocers Association (Reston, VA)
- National Grocers Association (Reston, VA)
- Food Merchandising Institute (Washington, DC)

#### Other Contacts

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- Manager at Westinghouse Credit Corporation (Pittsburgh, PA) which offers financing for fast food franchisors

#### REPORT STRUCTURE:

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This report is divided into four main parts:

- Chapter III contains INPUT's critique of the EDS section on "bundles", previously supplied to INPUT.
- Chapter IV includes INPUT's validation of the market issues submitted by EDS.
- Chapter V lists INPUT's findings and other information on the retail and wholesale distribution business.
- Chapter VI contains conclusions and recommendations



## II. EXECUTIVE SUMMARY

### Critique of "Bundles"

-----

INPUT proposes bundles based on a typical organization structure in typical retail/wholesale distribution:

- Finance and Administration
- Merchandising
- Logistics (Warehouse & Distribution)
- Information Services

### Industry Issues

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INPUT divides issues into two key areas, cross-industry and segment-specific.

#### Cross-Industry Issues

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- Extensive merger and acquisition activity
- Labor shortages
- Understanding customer needs and customer profiles
- Maintain gross margins
- Build traffic
- Control "Cost of Goods Sold" related expenses
- Control selling, general & administrative expenses

#### Segment-Specific Issues

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- Department Stores: Merchandise mix; mandatory employee benefits legislation
- Discount Merchandise Chains: Legislation affecting "grey market" goods
- Grocery Chains: Mandatory employee benefits legislation
- Men's/Women's Clothing: Legislation affecting tariffs on imported goods
- Fast Food Chains: Improve operating efficiency; site selection; facilities design; capital structure





## Recommendations

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- Target 3 application areas for Very Large organizations:
  - Finance & administration
  - Merchandising
  - Logistics
- Target logistics in Large retail & wholesale distribution organizations.
- The most important applications for computerization are:
  - Customer-related information
  - Sales-related information
  - Scheduling and training
  - I.S.-based Productivity enhancement



### III. CRITIQUE OF EDS "BUNDLES"

#### Background

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EDS' proposed the following five bundles:

- In-store and POS Services
- Communications Services
- Warehousing and Distribution Services
- Decision Support Services
- Finance, Merchandise, and Administration Services

#### Commentary

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INPUT believes that, while the above bundles may cover the key topics in retail and wholesale distribution, they are somewhat cumbersome and tend to complicate, not simplify, the distribution industry.

A simpler, more direct, structure allows an information services vendor to:

- (a) Speak the customer's language;
- (b) Develop marketing literature to address user needs; and
- (c) Help the sales force manage the sales process across functional organizational lines.

INPUT's approach also identifies targets for the sales force. Specifically, the finance and administration decision maker is identified as is, say, the person responsible for warehousing and distribution. Products tailored to meet the needs of a separate function can be sold to that function.

Finally, this structure allows a phased approach for EDS. A matrix showing organization functions by organization size should be developed. EDS product offerings can be mapped against this matrix to determine marketing and sales priorities.

#### Alternative

-----

INPUT proposes the following bundles, which are based on the structure of a typical distribution organization:

- I. Finance and Administration
- II. Merchandising
- III. Logistics (Warehouse & Distribution)
- IV. Information Services

Please refer to INPUT's revised description of retail services, which follows, and how these services fit the four bundles listed above.





## Bundle I. Finance and Administration

### Finance

-----

- General ledger
- Accounts payable
- Accounts receivable
- Billing/invoicing
- Fixed asset management
- Credit management systems
- Collection management
- Dunning letter generation
- Sales audit
- Payroll
- Income reporting methods
- Cashier accountability
- Local vendor payments and invoice matching
- EFTS
- On-line credit/check authorization

### Administration

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- Personnel management system

### Fixed Asset Management

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- Equipment maintenance tracking and scheduling
- Vehicle maintenance tracking and scheduling
- (Building) Environmental control

### Security

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- Security/Loss prevention
- Abusive customer refund identification



## Bundle II. Merchandising

### Market Database

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- Selective market analysis tools
- Competitive analysis tools
- Product information systems
- Market database (Includes: Market Characteristics)
- Market forecasts

### Customer Database

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- Demographic database and analysis tools
- Customer profiling (Individual/group/region)
- Customer retention analysis
- Target "customization" methods/customer planning
- Purchase information systems (includes: Frequent purchase information)
- Customer forecasts

### Merchandising Database

-----

- Price (change) management
- Advertising
- Advertising and promotion analysis
- Brand positioning
- Item pricing verification and analysis
- Direct product profitability
- Vendor profitability analysis
- Inventory management reporting
- Merchandise service level





## Merchandising Database (continued)

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- Customer self checkout
- Auto coupon generation
- (Product) Locator systems
- Catalogue services

## Physical Plant Database

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- Site selection
- Store characteristics
- Facility decision expertise
- Customer assistance centers

## Sales Database

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- Sales analysis
- Frequent purchase analysis
- Sales trend analysis
- Item performance analysis (Item/color/style)
- Warranty analysis
- Sales forecasts
- Coupon analysis



### Bundle III. Logistics (Warehouse & Distribution Services)

#### Warehouse Related

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- Distribution requirements planning
- Material tracking
- Physical inventory
- Direct product replenishment
- Automated warehousing
- Conveyor systems
- "Lights out" warehousing
- Receiving

#### Physical Distribution Related

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- Automated route planning
- Automatic roadmap information
- Enroute transportation tracking
- Freight rating & tracking
- Automated loading

#### Requirements Common to Warehousing and Distribution

-----

- Manpower scheduling
- Time and attendance reporting
- Shipment scheduling
- Product information systems (WDD)
- Mobile communications
- "Open to Ship" systems
- Locator systems





## Bundle IV. Information Services

### Internal Products or Services

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- Productivity systems
- Business simulation and planning
- Electronic publishing
- Telephone systems (including phone & wiring expertise)

### External Products or Services

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- External database integration
- Telephone systems (including phone & wiring expertise)
- "800" hotline

### Enabling Technologies \*

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- Advertising graphics systems
- Customization systems
- Electronic data interchange (EDI)
- Electronic image processing
- Expert systems
- Interactive voice processing
- "Magic Mirror"
- Satellite communications
- Speech recognition/audio response
- Video broadcasting
- Videotext
- P. C. dialup for home-based purchasing
- Mobile communications
- R.F. communications for repair and availability

\* The technologies listed can be applied to help solve application-specific problems. For example, satellite communications can be used to link distribution centers with the main computer to provide up-to-date information. However, these technologies are not separate applications.



#### IV. VALIDATION OF MARKET ISSUES

##### Introduction

-----

INPUT divided market issues into:

- Issues common to all retail/wholesale distribution segments
- Specific issues for EDS' target markets

Common issues are divided into:

- Industry issues
- Revenue generation issues
- Cost of goods sold issues
- Expense control issues
- Customer issues

Industry specific issues address the following industry segments:

- Department stores
- Discount merchandise chains
- Men's/women's clothing chains
- Grocery stores
- Fast food restaurants

##### Issues Common to All Retail Distribution SICs

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##### Industry Issues

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- Merger and acquisition activity cuts across all retail and wholesale distribution SICs and represents \$20 billion in 1986 vs. \$9.3 billion in 1985.
- Retail distribution (especially grocery stores and fast food restaurants) are suffering from labor shortages due, in part, to declining birth rates
- The key retail dry goods indicator is changing from "sales per square foot" to "sales/capital investment."



## Revenue Generation Issues

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- Maintain high markups through:
  - Private labelling
  - Finding new merchandise to sell, especially soft goods
  - Special purchases
- Build traffic through:
  - On-going advertising campaigns
  - Clearance sales
  - Use of coupons
  - Opening new stores in target areas

## "Cost of Goods Sold" Issues

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- Control "cost of goods sold" through:
  - Creative methods to obtain supplier discounts
  - Continued negotiations with suppliers
- Centralize sales and buying information at headquarters. Build satellite or telephone networks to support this effort.

## Expense Control Issues

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- Control credit card fraud and employee and customer theft
- Ensure accurate price marking
- Monitor and manage store staffing levels

## Customer Issues

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- Know your customer demographics (and focus accordingly)!
- Be aware of changing consumer lifestyles and preferences
- Customers use "perceived value," consistency, convenience, and quality to evaluate retail products and services





## Issues Common to Specific Distribution-Related SICs

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### Department Stores

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- Merchandise mix (soft vs. hard goods) and ownership mix of specialized departments (company-owned vs. leased)
- Concern over government plan for "mandatory employee benefits"

### Discount Merchandise Chains

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- Concern over government legislation on "gray market" goods

### Grocery Stores

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- Mergers and acquisitions are changing the grocery industry
- There is a shortage of people willing to work in the grocery industry. The industry is characterized by high content of part-time employees and high turnover.
- Larger chains and independents alike are concerned about the federal government's plans for "mandated employee benefits."

### Men's/Women's Clothing

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- Increases in tariffs on imported clothes (since much manufacturing is done overseas on a captive basis)
- Gain maximum efficiency from centralized distribution systems

### Fast Food

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- The fast food industry is saturated. Growth for one chain generally comes at the expense of another chain. Market niches, new products, and such services as delivery are means to help fast food restaurants grow. Non-fast food restaurants are implementing "image enhancement" steps (remodeling, changing menu designs, etc.)



- Successful operators cannot have a high labor cost/high overhead situation. Since labor costs are increasing, large franchisors are automating whatever functions they can to increase efficiency. Industry buzzwords are: "Efficiency, efficiency, efficiency!"
- Money is being spent on advertising (in order to maintain customer "share of mind"); "drive through" windows; remodeling (to enhance the restaurant's image); and integrated POS systems.
- The franchisor's capital structure is very important since all fast food franchisors want "A" (prime) locations for new outlets. The largest (and best capitalized) franchisors can afford to build at the best sites and fund the operation until profitable.
- Formula for success: (Ratio) Sales/Capital Investment.  
Examples: Delivery-based pizza restaurant needs ratio of \$700,000 annual sales/\$1,000,000 capital investment to be successful; a sit-down, full-service restaurant requires \$1,700,000 annual sales/\$1,000,000 capital investment. Interestingly, larger facilities need more sales to support the capital investment, rather than realizing operating economies of scale. In the past, facilities were overbuilt (4500 sq. feet facilities with 150 seats rather than smaller buildings with 70-75 seats), requiring higher sales to support the higher investment.
- From an investment perspective, a key indicator is the ratio of good/bad locations. Since every operator will have made bad choices, minimizing these is a key. Thus, the manager and assistant manager are very important to successful fast food operations since their actions influence the number of "bad" locations.



## V. INFORMATION SERVICES AND OTHER INFORMATION

### Department Stores

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- Deal with tradeoff of stocking merchandise mandated by headquarters versus items desired in the local market
- Management-oriented information which identifies fastest- and slowest-moving items at each store for redistribution
- Specialty and warehouse retailing are creating the most problems for main-line department stores. Trends include "hypermarkets" (combination supermarket/department stores); more fashion-oriented stores; more standardization/centralization; anything that will help spot trends early; faster checkout; and separate displays within a department which focus on one manufacturer's products.

### Grocery Stores

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- Large grocery chains are spending money to automate:
  - From batch to real-time systems
  - Checkout
  - Warehouse operations
  - Computer-based product re-ordering
  - Electronic invoices for purchase orders, transportation services, and warehousing services
- New applications:
  - Credit card-based purchases
  - EFT-based food stamp redemption
  - Automated couponing systems (coupons for one product are linked to purchases of a different product; kiosks for dispensing cents-off coupons or crediting the customer's final grocery bill)
  - (Weight-based control of) Self-checkout
  - EFT at the cash register (debit cards)
  - EDI between wholesalers and manufacturers (proceeding slowly)
- In 5 years, expect to see more niche markets and specialized or differentiated services.





## Men's/Women's Clothing

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- Men's/women's clothing stores are spending for:
  - Better merchandise displays (includes store fixtures)
  - Computerization
  - Regional distribution centers
- Clothing stores are computerizing the:
  - Stockroom
  - Warehouse
  - Store's communications with the main office
  - Point of Sale
- Stores must deal with tradeoff of stocking merchandise mandated by headquarters versus items desired in the local market

## Discount General Merchandise/Variety Stores

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- Same key issues as Men's/Women's Clothing Stores
- Factor for success: Carry the right soft goods since these have 40-45% margins, compared to 15-20% gross margins for appliances or other hard goods, which require more space to properly display
- Local managers must become involved with their store's neighborhood to improve the community image

## Fast Food

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- Fast food restaurants are spending for:
  - Point of Sale systems
  - Tying POS systems into the main backroom computer
  - Linking the backroom computer with the mainframe at headquarters
- Computers are helping to solve 3 key problems: cash controls, workload planning, and scheduling (which is based on sales per shift). Franchisors need: Anything to eliminate people or simplify operations, making it easier to train people. "Integrated POS" is now key -- it handles payroll, inventory control, cash control, order flow, etc.



## VI. CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- INPUT concludes the distribution industry has a relatively straightforward mission:
  - Determine what merchandise and services the customers want
  - Find the merchandise and negotiate for the best price, delivery terms, billing terms, or other means of reducing the cost of goods sold
  - Develop appropriate, attractive facilities and displays to sell these goods
  - Operate efficiently
- Issues common to all aspects of retail distribution include:
  - Increased merger and acquisition activity
  - Labor shortages
- Retailers are concerned over government legislation on "grey market" goods and mandatory employee benefits.

### Recommendations

- Target 3 application areas for Very Large organizations:
  - Finance & administration
  - Merchandising
  - Logistics
- Target logistics in Large retail & wholesale distribution organizations.
- Justification:
  - (1) Retailers are actively building integrated finance and accounting systems to replace aging batch-oriented systems.
  - (2) Merchandising is becoming more a science than an art. However, up-to-date and accurate information is essential in today's competitive retail environment.
  - (3) Logistics (warehousing and distribution) consume tremendous "hidden" dollars. Improvements in this area will yield a sizeable payback.
- The most important applications for computerization are:
  - Customer-related information
  - Sales-related information
  - Scheduling and training
  - I.S.-based Productivity enhancement



## EXHIBIT VI-1

## EDS TARGET MARKETS

Size	Organization Functions			
-----	-----			
	Finance and Administration	Merchan- dising	Logistics	Informat. Services *
	-----			
<u>Very Large</u> (>\$1 Billion)	A	A	A	B
<u>Large</u> (\$150 Million - \$1 Billion)	B	B	A	C
<u>Medium</u> (\$1 Million - \$150 Million)	C	X	X	X
<u>Small</u> (<\$1 Million)	X	X	X	X
	-----			

## Priority of Target Applications:

- A: Primary
- B: Secondary
- C: Tertiary
- X: Not in EDS-Defined Target Market

\* Vendor supplied "Information Services" products and services include:

- Application Software
- Professional Services (Education & training, Consulting)
- Facilities Management
- Systems Integration





## EXHIBIT VI-2

## EDS TARGET APPLICATIONS

Category	Finance and Adminis.	Merchan- dising	Logistics	Information Services
-----				
A.	- GL/AP/AR - Fixed Asset - Credit Mgmt - Scheduling & training	- Customer Database - Sales Analysis	- Manpower schedules - Automated warehouse	- Produc- tivity enhancement
B.	- Loss Control (Security) - Collection management	- Direct product profitab. - Catalog services	- Physical inventory - Open-to-ship systems - Freight rating	- Simula- tion - Internal communi- cation
C.	- Environment control	- Physical plant database	- "Lights Out" concept	- Electron publis- hing



**APPENDIX A**

**QUESTIONNAIRE**



CONFIDENTIAL

INPUT QUESTIONNAIRE

CATALOG. NO.

SIC. CODE

SIZE CODE

AREA CODE

STUDY CODE

DATES

E	D	2				
1	2			8	4	
MM		DD		YY		

STUDY TITLE:

TYPE OF INTERVIEW:

☐ VENDOR  
☐ USER

☒ TELEPHONE  
☐ ON-SITE  
☐ MAIL

INTERVIEWER: \_\_\_\_\_

COMPANY: \_\_\_\_\_

CO. TYPE: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

SALES: \_\_\_\_\_

NO. EMPL: \_\_\_\_\_

INDUSTRY ☐

☐ Discrete Manufacturing  
☐ Process Manufacturing  
☐ Transportation  
☐ Utilities  
☐ Telecommunications

☒ Distribution - *retail*  
☐ Banking & Finance  
☐ Insurance  
☐ Medical  
☐ Education

☐ Services  
☐ Federal Government  
☐ State & Local Government  
☐ Other Industry Specific

INTERVIEWS

NAME

TITLE

TELEPHONE NO.

SUMMARY \_\_\_\_\_

REFERENCES \_\_\_\_\_



## INTRODUCTION

Hello. This is \_\_\_\_\_. I'm an analyst with INPUT, a market research firm in Mountain View, California, which specializes in the information services industry.

I'm writing a report on the retail and wholesale distribution vertical market, with emphasis on information services needs. I'm calling various industry organizations to learn background information for this report.

Do you regularly follow \_\_\_\_\_ (please insert one):

1. Department stores?
2. Grocery stores?
3. Men's/women's clothing stores?
4. Fast food chains?

Would you have a few minutes now to discuss some issues and trends? (If NO:) When would be a good time to call back?

In exchange for your time, I'd be happy to send you a copy of the final report.

(If you leave a message:) Please call and ask for \_\_\_\_\_; however, if I'm not here, please ask for my associate, \_\_\_\_\_, who can also discuss this project with you.





## QUESTIONNAIRE

### Industry Overview

-----

1. What are the top 3 issues in the \_\_\_\_\_ market?
  1. Department stores
  2. Grocery stores
  3. Men's/women's clothing stores
  4. Fast food chains
  - a. \_\_\_\_\_  
\_\_\_\_\_
  - b. \_\_\_\_\_  
\_\_\_\_\_
  - c. \_\_\_\_\_  
\_\_\_\_\_
2. What forces are causing the market to grow?  
\_\_\_\_\_  
\_\_\_\_\_
3. What forces are slowing growth in the market?  
\_\_\_\_\_  
\_\_\_\_\_
4. What are the current industry "buzzwords"?  
\_\_\_\_\_  
\_\_\_\_\_
5. What aspects of the \_\_\_\_\_ (1. Department stores  
2. Grocery stores 3. Men's/women's clothing stores  
4. Fast food) business must be done well in order to be  
successful? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
6. Making changes in what two key areas have not reduced  
expenses as much as believed they would?  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



7. What are the newest applications in retail and wholesale distribution? \_\_\_\_\_  
\_\_\_\_\_
8. What has been the industry capital spending trend over the past five years? \_\_\_\_\_  
\_\_\_\_\_
9. In what <sup>A</sup>reas are the most capital spending dollars now being spent? \_\_\_\_\_  
\_\_\_\_\_  
(Choices: Buildings; furnishings; computer hardware or software; automated inventory control/warehousing systems)
- 10 Are large firms shifting their cost structure more toward fixed or variable costs? \_\_\_\_\_ WHY?  
\_\_\_\_\_  
\_\_\_\_\_
- 11 What will the industry look like in five years?  
\_\_\_\_\_  
\_\_\_\_\_

#### Customers

-----

- 12 What do you believe today's retail customers are looking for at the department store? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 13 What is the impact of large retailers entering the wholesale and manufacturing aspects of the business?  
\_\_\_\_\_  
\_\_\_\_\_
- 14 What do you believe today's retail customers are looking for at discount clothing chain stores? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



15 What do you believe today's retail customers are looking for at the supermarket? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

I.S. Issues  
-----

16 For what information services applications are retailers and wholesalers actually spending money?  
\_\_\_\_\_  
\_\_\_\_\_

17 What 3 business problems are being solved through increased computerization?

a \_\_\_\_\_  
\_\_\_\_\_

b \_\_\_\_\_  
\_\_\_\_\_

c \_\_\_\_\_  
\_\_\_\_\_

18 What are the top 3 needs not now being met by hardware or software vendors?

a \_\_\_\_\_  
\_\_\_\_\_

b \_\_\_\_\_  
\_\_\_\_\_

c \_\_\_\_\_  
\_\_\_\_\_





If you get a "live one" please probe these areas:

- Importance of sales per square foot vs. gross margin  
ROI
- How important is growth through opening new stores?  
Any impediments in this area?
- Are the larger department stores threatened by  
specialty retailing? \_\_\_\_\_ What has been their  
response?
- How important is controlling of fraud and theft in  
retail and wholesale distribution?
- What is the role of EDI (electronic document  
interchange) in your industry?

Thank you very much for your help. Please give me your  
address to ensure you receive a copy of our report.



M E M O R A N D U M

TO: Dennis Holland; Project Manager

FROM: Bruce Hadburg

SUBJECT: Followup to "Retail & Wholesale Distribution  
Market Assessment"

DATE: January 5, 1988

-----  
It was a pleasure speaking with you today. Here is the  
information you need:

- (1) "Grey market" goods are those purchased through  
distribution channels other than the manufacturer's  
"Authorized U.S. Distributor."

For example, U.S.-based discount stores may purchase  
Seiko watches from a Japan-based wholesaler at prices or  
terms (billing) more favorable than those offered by the  
"official" U.S. distributor. This trade takes  
advantage of differences in currency exchange rates.

Two disadvantages of these purchases:

- The goods may not be repaired by U.S. outlets  
since they are not identified (thru serial  
numbers) as goods "authorized" for U.S. sales.
  - The goods may be manufactured to slightly  
different specifications than those manufactured  
for the "regular" U.S. market.
- (2) The six-page article entitled "Shopping Spree" from the  
November/December 1987 issue of CIO Magazine is  
attached.
- (3) Justification for prioritization of target markets as  
shown in Exhibit VI-1:
- I considered the following industry issues as most  
important (with the affected area of retail/wholesale  
operations shown in parentheses):
    - a. Labor shortages and training (Finance & Administration  
related)
    - b. Customer-related issues and maintaining margins  
(Merchandising related)



Dennis Holland (c/o Mary Clough at Mail Stop A-570)

- c. Control "cost of goods sold" related expenses (related mainly to the Logistics area)
- Next, I considered the following segment specific issues to be of primary importance (and, again, the affected area of retail/wholesale operations is shown in parentheses):
  - a. Mandatory employee benefits legislation (Finance and administration/personnel)
  - b. Merchandise mix (Merchandising)
  - c. "Operating efficiency" (Merchandising and Logistics)
  - d. Employee scheduling and training (Finance and administration/personnel)
- Then I evaluated the paybacks of automating each of the key areas listed.
  - a. Personnel will have a relatively large payback but will require a 2-3 year implementation period
  - b. Merchandising will have a large payback and will be felt within 6-12 months of implementation. However, the real payback will be felt when an integrated set of applications (rather than one or two separate applications) is implemented. Since a complete merchandising system will not be implemented at once, it could take 2-4 years to complete this project (given cash flows and debt structures of the retail/wholesale industry).
  - c. Logistics is similar to merchandising. Large payback; 3-6 month lag from implementation to payback; and gradual installation of a complete system, taking 1-3 years. This should take less time to implement than merchandising since these modules all would relate to a single goal --logistics -- versus developing a broader system encompassing merchandise buying and customer profiling and demographics information).





- Combining this analysis leads to the conclusions that:
  - "Very Large" retailers (and wholesalers) must implement systems for all three key areas -- finance/administration, logistics, and merchandising -- if they are to remain competitive.
  - Logistics systems have the highest payoff since they: can automate one discrete business function and can be implemented rapidly. The same holds true for logistics systems for "Large" firms.
  - Merchandising systems are a must, too. However, they require co-ordination between customer profiling, local demographics, sales promotion and sales analysis, and merchandise buying. Most firms cannot co-ordinate that quickly!

• In summary, INPUT recommends EOS target the following retail/wholesale distribution applications in the order shown:

- Logistics
- Personnel
- Merchandising





# SHOPPING SPREE

BY JON PEPPER

Giant retailers are buying point-of-sale technology in wholesale volumes



PAUL BENCHENER (above) and WILLIAM EATON (top left with Benchener): trying to beat the pants off the competition

If retail automation was once a trend, the trend soon became a phenomenon, veered sharply toward juggernaut and is presently cresting as a verifiable tidal wave.

While automation technology may escape the notice of consumers, retailers hope to see improved customer service, more timely inventory allocations and a host of other enhancements.

The numbers involved are hefty enough to turn the heads of even the most jaded observers. The research firm International Data Corp., of Framingham, Mass., estimates the retail automation market will top \$11 billion in 1988, with an annual growth rate that exceeds 18 percent.

The National Retail Merchants Association, of New York, lists more than 700 software packages from over 200 vendors that are exclusively designed to help retailers meet their automation goals.

With the retail market becoming increasingly competitive among both large and small companies, automation has moved to the forefront as a tool to help deliver better customer service as well as bottom-line results. Monroe Greenstein, a senior analyst at the New York investment firm of Bear Stearns, said the fundamental reason for the surge in retail automation is that retailers can both improve their merchandising skills and become more competitive.

## WHAT SELLS, WHAT DOESN'T

"The bottom line is that automated systems can tell retailers what is selling and what isn't at a faster rate than before," Greenstein said. "They can also tell where their gross margins are coming from, and even one or two weeks of lead time is vital in the retail market," he added.









Greenstein also explained that in the past many retailers were reluctant to install systems, partly because of the high cost. "They weren't sure if they could justify the ROI," said Greenstein, "but the competition has heated up significantly, and this is clearly an important tool now."

One of the pacesetters among large retailers is K Mart Corp. Based in Troy, Mich., the firm rang up more than \$23.8 billion in sales in 1986—and has its sights set on a lot more. According to David Carlson, K Mart's vice president for corporate information systems, retail automation will continue to be a key strategy in the future. Even for a giant company like K Mart, the financial commitment is imposing.

"We think retail automation is among the most important three or four strategic thrusts that we have," said Carlson, "and we've allocated \$1 billion over the next five years to hardware, software and operating budgets. Even for a company of our size, that is a very, very major commitment."

However, that commitment, ac-

cording to Carlson, is one that top management believes is absolutely vital to the future of the corporation. In 1981, K Mart's CEO Bernard M. Fauber set a policy direction for automation—mandating Universal Product Code (UPC) scanning equipment in all the chain's stores—that Carlson believes was visionary.

"However, besides the whole range of rational arguments for automation, a good strategy also has to have some magic—some ability to project into the future what is going to be important, and that goes beyond what may appear obvious [in the present]."

Following Fauber's statement of direction, K Mart embarked on an ambitious program of automation, beginning with the plan to install scanners in the 2,100 K Mart stores (the project will take until mid-1991 to complete). Carlson came on board in 1985, the year that marked the beginning of a stepped-up automation effort that saw the number of stores with scanning equipment rise from 23 to the current 660.

But there is a lot more to the K Mart automation strategy than point-of-sale product-code scanners.

The retail giant is in the process of installing an automated, online credit-checking system that will provide authorization within four to seven seconds. "We will have that in 700 stores by the end of the year and in all stores by the end of the POS scanner program," said Carlson.

K Mart has already installed an automated layaway program in half of its stores (the rest will be on line by 1988) that dramatically speeds the operation of the layaway process. "We are very pleased with that one,"



DAVID CARLSON: A blue-light special on technology

PHOTO BY DAVID POWERS

PHOTO BY MICHAEL GERMER





said Carlson, "because we won a consumer affairs award for customer service."

When asked whether automation projects needed to be cost-justified on the bottom line, Carlson said they did not. But he identified three areas of concern that inform the process of technology adoption: customer service, sales and cost reduction. While the three are intertwined, Carlson sees customer service and sales as synergistically linked and of paramount importance to K Mart. Cost reduction—which he calls just another way of saying bottom line—comes in a close third.

"I think it is quite hard for a retailer to separate the bottom line and customer service," Carlson said. "There may be industries where you can reflect on whether you want to emphasize customer service [as opposed to] the bottom line, but in retailing customer service means sales." At K Mart, he said, "Sales are so leveraged on customer service that I'm not sure we have the luxury of making any trade-offs. We have to push at every point in time on customer service."

Nonetheless, cost reduction is significant to a large retailer like K Mart. "We have an awful lot of manual effort in our stores, and by automating many of the aspects of managing the stores and keeping track of the items and prices more efficiently, we can reduce labor costs."

But he also indicated that increasing efficiency through automation provides benefits other than cost reduction at K Mart. By enabling employees to spend more time on selling-related activities and less on pricing and inventory tasks, automation can help provide better customer service. "If we have three or four people in a store trying to manage the flow of paper, and we can reduce that load, it can certainly give us better coverage on the floor, for example," Carlson explained.

To that end, K Mart is implementing several other automation programs likely to escape the notice of customers—although their results might not.

One of these is a labor-management system that lets the company do a better job of scheduling staff within each store. "While scanning

makes the checkout about 23 percent faster," Carlson said, "the people you have available at different times is also a key ingredient to customer service. By doing a better job of tracking when the customers are in the store, we can schedule the staff better."

There is also a product receiving and marking system that is not visible to customers but that allows K Mart to do a better job of ensuring that prices are properly marked when products come in. And finally, there is a general-purpose computer in each store for functions such as payroll, merchandise ordering, vendor reviews and other related tasks.

### SALES OF ANOTHER KIND

Even though having a strategic direction initiated by the company's CEO is helpful for information systems, Carlson admitted that it is occasionally necessary to lobby programs though. "With a company like ours, there exist a wide range of perceptions about how important technology is. So, although executive management at K Mart has a vision of the strategic value of retail automation, it is also the case that we have two selling jobs to do."

The first sales job, according to Carlson, entails winning support for projects and applications that are either more than usually complicated or whose benefits and payback are perhaps not readily grasped. The second kind of sell involves more general "missionary work for the overall strategy to people who don't catch the vision."

Nonetheless, said Carlson, "There is a general acknowledgment across all parts of the company that technology is a resource and that the strategic use of information is an essential ingredient of our long-term goals, viability and success."

While he wouldn't talk specific figures, Carlson said, "We are already realizing direct payback from our automation program." One marketing benefit he mentioned is that K Mart now knows what customers are actually buying in its stores on a daily basis—which regular items they buy, which sale items, and how promotions affect sales.

"Historically, we spend about \$600 million on advertising media, in addi-

tion to more than \$1 billion every year on promotional price adjustments in support of an image for K Mart," Carlson said. "The ability to evaluate the productivity of the media and promotion dollars being spent is now available to us, and it never has been before. That is only one area of return."

Another dividend is the company's ability to adjust the product assortment of a given store to match the tastes and needs of local customers. This process is often called demographic merchandising, but Carlson prefers the phrase "local selection." Illustrating the enormous potential of stocking by local selection, Carlson said that "an improvement of only one turn in our stores' inventory frees up \$1 billion in cash flow; so you can see what is involved."

Carlson and K Mart are operating from the conviction "that if one is not doing the kinds of things we're doing now, one's ability to compete five years from now will be profoundly eroded."

### TAILORING TECHNOLOGY

Another company that is definitely not turning its back on technology is Levi Strauss & Co., of San Francisco. While the ubiquitous blue jean that is still a staple of its product line is mostly unchanged, Levi Strauss, with 1985 sales of \$2.5 billion, has continued upgrading its automation program.

Levi's latest innovation is LeviLink, a package of computerized business services that was developed solely for the company's retail accounts. LeviLink was designed to simplify for retailers the process of ordering, receiving and stocking products, and analyzing sales. It also makes possible automatic invoicing.

Paul Benchener, the director of retail electronic services, said the major emphasis of LeviLink is on inventory management and on using the pre-ticketing of items by Levi Strauss to help retailers.

"We talked with retailers for about one and a half years, and found out that what they wanted was EDI [electronic data interchange]," said Benchener. "They wanted to be able to send and receive business data with us. So, in September of last year we announced our package of





services, which are clearly the result of retailer needs and desires. It's better for them, and it's better for us."

William Eaton, the vice president of corporate information systems for Levi, said senior management saw the need for the project. "We knew about the threat from offshore competition, and knew we needed to form strong partnerships both with suppliers and retailers, and the benefits of technology could help us to achieve quasi-vertical integration," Eaton said. "Technology could help us so that inventory levels could be coordinated and services that are affected by inventory could also be coordinated."

Eaton explained that senior management was very much attuned to the benefits of using automation, not just for Levi, but also for the retailers. "It [LeviLink] didn't take a lot of convincing," he said. "Once they got it, there was simply no question." Benchener added that "today there is no question about the ongoing commitment of Levi to automation."

Conceptually, LeviLink is fairly straightforward. Levi pre-tickets merchandise with the both the Universal Vendor Marking (UVM) and UPC, saving the retailer from three to 14 days of processing and tagging time. Each sale is recorded at the retail end. Information scanned from the tags is automatically transmitted to Levi from the retailers' PCs. Retailers can also use LeviLink to create electronic purchase orders, which cuts the process down from days to minutes. Packing slips are sent electronically from Levi to retailers, as are invoices.

LeviLink also offers a third-party PC software package that helps retailers analyze gross margin, return on sales, inventory and profitability. With the exception of that package, LeviLink was developed internally by Levi Strauss.

"The retailers don't pay for the use of the software, except for the third-party package," said Eaton. "Since that runs totally in their store, they pay a modest amount to the developer." Otherwise, the retailer pays only for the cost of moving the electronic transfers to a third-party mailbox (General Electric Information Services Co.), and Levi pays for the cost of retrieving the information



RUSSELL LONGYEAR: Upping J.C. Penney's ante with a television ordering system

from GEISCO.

Said Benchener, "We consider this to be very strategically important, and we are making an important commitment." Though he wouldn't specify a figure, he did say that Levi has invested "considerable amounts of time and money [in technology]."

"What we are really focused on is the ability to speed up the cycle from the time the order is placed until the time it is sold and replaced again, and we think automation can help," he said. Benchener expects LeviLink to help improve merchandise turns, reduce inventory and increase sales. "When you calculate those out, you get into some considerable potential savings and increased sales, and that is clearly a benefit for both sides."

Another reason for the corporate commitment was the need to maintain competitive position, a point that William Eaton addressed. "There are a lot of aspects to maintaining shelf position, and senior management made the commitment with the full understanding that providing an adequate service array to our customers was important," he said.

He explained that for the future, they understood that the retailer had to be profitable with the Levi-Strauss product, and that there are a lot of

ways to help the retailer. "You can make a product the consumer wants, as a start. But there is also a lot you can do with information and technology to provide the best service to the retailer," said Eaton. "Those are the kinds of value-added services that improve everyone's performance and help keep the retailers coming back to the vendor that can best provide them."

The commitment to technology of senior Levi management was made with the understanding that automation is the future of the retail environment. "Those companies—including us—that aren't involved in the ability to better help manage inventory through automation will lose space," said Benchener. "So, with LeviLink we were really looking ahead to what would improve our business, and our retailers' business as well."

## PENNEY WISE

At J.C. Penney, the use of technology is a vital component in the firm's competitive arsenal. Robert Capone, senior vice president and director of technical operations, explained that Penney has "always looked at technology as a way that retailers compete with each other, and I think it is





a necessity in the competitive environment today."

The company has completely automated all of its stores with point-of-sale terminals connected to a central network. Every Penney store is on-line for applications such as credit authorization and data capture. Every transaction is captured onto the network, and the system is connected to the bank-card authorization network for credit approval.

Unlike some companies, where automation projects may be implemented without the need to show a direct bottom-line benefit, all automation projects at Penney are treated as capital expenditures and must go through the same evaluation method as any other project.

"It is the same process as if we were building a new store or a new distribution center," said Capone. "We look at all the financial aspects, with ROI being the major element—we don't do automation projects just for the sake of doing them," he said, adding that "they definitely do have to

be cost-justified."

This is not to say that it is difficult to get automation projects approved at Penney. According to Capone, senior management works very closely with the information technology, is fully aware of all the major projects and takes a great deal of interest in them.

In fact, the capital approval committee includes the chairman of the board and vice chairman of Penney. "This is one company where we don't say we wish we had management support," Capone said.

The bottom line, in terms of measuring an automation project's success, varies with the particular project, according to Capone. "There is no question that inventory turns are one measure, but you also look at expense ratios and a lot of other things—each project will vary." However, he added, "When you boil it down, it must always be translated into a return on investment."

But this doesn't mean the company doesn't get involved in projects in-

volving risk. "Hopefully you minimize the risk," said Capone, "but our chairman said many years ago that if everything we do works perfectly, then we aren't stretching ourselves far enough."

## VIDEO CONFERENCING

One major project underway at the giant retailer is a satellite-transmitted video-conferencing system. The setup was designed to improve Penney's marketing of merchandise to individual stores.

Russell H. Longyear, the manager of company communications, explained that before Penney adopted the satellite video technology, representatives from the 50 major markets would have to come to New York 12 to 15 times a year to buy stock for the groups of stores in their regions. "They would come in, and the J.C. Penney buyers would show samples of the merchandise, and [the reps] would order from that," said Longyear.

In 1983, however, Penney began to

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look at point-to-multipoint analog transmission, and did closed-circuit testing. "Three to four times that year we had buyers presenting in front of a TV camera to demonstrate TV buying," he explained.

"With that testing we were able to experiment with various ways to overcome the natural resistance buyers have to buying without seeing and feeling the merchandise," said Longyear. The decision was three-fold: To have the best TV equipment for the best picture, to have good, creative camera work, and to have buyers give a complete verbal explanation of fabrics, weights and other features.

After setting up a 15-site pilot program in 1984, the company moved to the current level of about 200 sites, with 650 Penney stores involved. "Now, the employee from any one of our stores needs to travel no more than a couple of hours to get to the nearest viewing site," said Longyear. The project has been so successful that Penney now presents over 80

percent of its merchandise to buyers with the video system.

A major reason for using the system was to improve the timeliness in the buying cycles, which can be as much as six to nine months for imported goods, according to Longyear. "Previously, buyers, who had to commit at the wholesale level, made commitments on quantities for items before they had a good reading of what the stores would buy," he said. The result, of course, was that they were seldom precise in estimating what stores needed, making inventory levels either too high or too low for demand, neither of which is desirable.

"This system has tightened up our buying cycles, so we can have an advantage for the customer of having the goods they want in the appropriate quantities," said Longyear.

Getting the system approved by upper management was not difficult, according to Longyear. "The solution really sold itself," he said. "Once the testing began, the merits and bene-

fits of the technology became self-evident, so it wasn't a significant uphill battle." Although the system was a good fit with Penney's corporate culture, Longyear was unsure whether it could work as well for other companies. "Operationally, it might look as if it would work somewhere else, but because of how a particular company manages its business, it may not fit in practically."

With demonstrated success not only at these companies, but at many more, retail automation is more than just important. It is, quite likely, critical to the future.

As K Mart's Carlson sees it, retailing in the future without automation is a conundrum. "How can you possibly compete against someone who knows what products to promote, how to balance the selection so you have the right products on hand, and knows which ones are selling in which stores?" he said. ☐

*Jon Pepper is a freelance writer based in Sunderland, Mass.*

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